

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A hydrocarbon hydroconversion catalyst, consisting of comprising a medium with a base of at least one refractory oxide, at least one metal of group VIII and at least one metal of group VIB on the Period Table of the Elements, ~~characterized in that it has~~ and further comprising at least one organic compound with at least one oxime group of the formula:



where R_1 is chosen from among a hydrogen atom, the alkyl, allyl, aryl, alkenyl or cycloaliphatic groups, ~~and the combinations thereof, and these one or more of said groups can~~ could potentially be substituted by at least one electron donor group.

2. (currently amended) The catalyst described in claim 1, characterized in that wherein the organic compound is the result of the reaction of an amine of formula (II) below



in which R_1 is chosen from among ~~the~~ a hydrogen atom, ~~the~~ alkyl, allyl, aryl, alkenyl or cycloaliphatic groups, and ~~the~~ combinations thereof, and ~~these one or more of said~~ groups can be substituted by an electron donor group_{1s}; with a carbonyl compound of formula (III) below



where R_3 and R_4 , which are either identical to or different from one another, are chosen from among hydrogen, for only one of them, linear, ramified or cyclic ~~hydrocarbon~~ alkyl, aryl, allyl or alkenyl groups, ~~of the alkyl, aryl, allyl or alkenyl type, and the combinations thereof, which themselves could potentially can~~ be substituted by electron donor groups.

3. (currently amended) The Catalyst described in claim 2, ~~characterized in that wherein~~ the amine of formula (II) is hydroxylamine.

4. (currently amended) The Catalyst described in claim 2, ~~characterized in that wherein~~ the carbonyl compound of formula (III) is chosen from among ~~the~~ carbonyl compounds that are naturally present in a hydrocarbon charge that is the result of the distillation of crude oil, or ketones and aldehydes.

5. (currently amended) The Catalyst described in ~~any of claims 1 through 4,~~ ~~characterized in that wherein~~ said organic compound has a principal carbonaceous chain of 1 to 40 carbon atoms that is linear, ramified or partially or completely cyclic, that ~~could potentially can~~ be interrupted by heteroatoms chosen from among sulfur, nitrogen or oxygen, and the carbon atoms ~~could can~~ be substituted by a hydrogen atom, alkyl or aryl groups, at least one oxime group, ~~and potentially other oxime groups, and/or~~ at least one hydroxyl, sulfide ~~and/or~~ polysulfide

group, a thiol, thioacid, thioether ~~and/or~~ thioester group, sulfone ~~and/or~~ sulfoxide groups, amine, amide ~~and/or~~ imine groups, carboxyl, ether ~~and/or~~ ester groups, ketone ~~and/or~~ aldehyde groups, nitrate groups, phosphines ~~and/or~~ any other group with a free electron pairs.

6. (currently amended) The Catalyst described in any of claims 1 through 5,
~~characterized in that~~wherein the organic compound includes a single oxime group.

7. (currently amended) The Catalyst described in claim 6, ~~characterized in that~~ wherein
the organic compound is chosen from among ~~the~~ alkyloximes, alkenyloximes, allyloximes,
aryloximes and ~~the combinations thereof,~~ alkanoneoximes, cycloalkyloximes, alkanaloximes
and benzaldehyde oximes, which may or may not be substituted by alkyl, aryl, arylalkyl and
alkylaryl groups.

8. (currently amended) The Catalyst described in claim 7, ~~characterized in that~~ wherein
the organic compound is chosen from the group consisting of 2-octanone oxime, 3-heptanone
oxime, tricosanone oxime, heptanone oxime, phenyldodecanone oxime, 1,3-diphenylacetone
oxime, benzophenone oxime, 2-phenylcyclohexanone oxime, fluorenone oxime,
dimethylbenzaldehyde oxime, benzaldoxime, acetophenone oxime, methylphenanthryloxime, 2
methyl-benzaldehyde oxime, cyclooctanone oxime, 2-phenylcyclohexanone oxime, o-
ethylhexanone oxime, isobutyraldehyde oxime and acetone oxime.

9. (currently amended) The Catalyst described in any of claims 1 to 5, ~~characterized in~~
~~that~~wherein the organic compound includes one oxime group and at least one second group with
a free electron pairs.

10. (currently amended) The Catalyst described in claim 9, ~~characterized in that~~ wherein
said organic compound has at least two oxime groups.

11. (currently amended) The Ccatalyst described in claim 10, ~~characterized in that~~
wherein said organic compound is chosen from among the-dioximes and polyoximes comprising
~~the one or more~~ alkyl, aryl, alkylaryl and arylalkyl groups.

12. (currently amended) The Ccatalyst described in claim 11, ~~characterized in~~
~~that~~wherein said organic compound is chosen from among glyoxime, monoalkylglyoximes,
dialkylglyoximes and polyoximes with carbonaceous chains including 1 to 10 carbon atoms that
tolerate hydrogen and ~~the~~ alkyl, aryl, alkylaryl and arylalkyl groups.

13. (currently amended) The Ccatalyst described in claim 12, ~~characterized in that~~
wherein said compound is dimethylglyoxime.

14. (currently amended) The Ccatalyst described in claim 9, ~~characterized in that~~wherein
the second group with a free electron pair is chosen from among the hydroxyl, sulfide and
polysulfide groups, ~~the~~ thiol, thioacid, thioether and thioester groups, ~~the~~ sulfone and sulfoxide
groups, ~~the~~ amine, amide and imine groups, ~~the~~ carboxyl, carbonyl, ether and ester groups, ~~the~~
ketone and aldehyde groups, ~~the~~ nitrate groups and phosphines.

15. (currently amended) The Ccatalyst described in claim 14, ~~characterized in~~
~~that~~wherein the organic compound is chosen from among mercaptoalkane oximes,
alkoxybenzaldehyde oximes, alkoxyarylbenzaldehyde oximes, nitrobenzaldehyde oximes and
alkoxybenzaldehyde oximes, hydroxybenzaldehyde oximes, alkoxybenzophenone oximes,
substituted carboxaldehyde oximes, nitroarylethanone oximes, aminobenzaldehyde oximes,
benzamide oximes, substituted acetyl oximes, acetyl-furan, acetyl-thiophene and acetyl-pyridine
oximes, hydroxyalkanal oximes, amidooximes, acetophenone oximes, oxime hydrazones or
polyalkanol oximes, ~~and these groups could potentially~~ any of which can be substituted by alkyl,

aryl, arylalkyl, alkylaryl, pyridinyl, thiophenyl and furanyl groups, sulfides, alkoxyls, amines, cyanides, nitrates and hydroxyls.

16. (currently amended) ~~The~~ Catalyst described in claim 15, ~~characterized in that wherein the organic compound is chosen from among~~ d-galactose oxime, benzamide oxime, benzyl oxime hydrazone, benzoichydrazide oxime, ethyl-2-oxobutyrate-2-oxime, isatine-3-oxime, ethyl(hydroxyimino)cyano-acetate, di-2-pyridylketone oxime, benzamide oxime, hydroxypentanal oxime, 4-pyridylamidooxime, nitrobenzaldehyde oxime, methoxybenzophenone oxime, hydroxybenzaldehyde oxime, dimethylaminobenzaldehyde oxime, 2-acetylpyridine oxime, 4-hexadecyloxybenzaldehyde oxime, methylthioacetaloxime, dimethoxy-nitrobenzaldehyde oxime, methoxyacetophenone oxime, methylbenzamide oxime, thiophenecarboxaldehyde oxime, acetyl-thiophene oxime, aminobenzophenone oxime, acetyl(methyl)thiophene oxime, 2-(4-methoxyphenyl)glyoxal-1 oxime, 1-mercapto-propane-2-oxime, aminophenylethane oxime, (octyloxyphenyl)phenyl-methanone, acetylfurane oxime, acetonaftoquinone oxime, 4-methoxy-3-nitro-benzaldehyde oxime, ethoxybenzaldehyde oxime, methoxybenzaldehyde oxime, 2-(4-methoxyphenyl)glyoxal 1-oxime, 1-mercapto-propan-2-one oxime, 1-(3-nitrophenyl) ethanone oxime, phenanthrene quinone-9-oxime, o-(4-nitrophenyl)acetone oxime, and isatine-3-oxime.

17. (currently amended) ~~The~~ Catalyst described in ~~any of claims 1 through 16,~~ ~~characterized in that it includes~~ comprising at least 0.001 mole of said organic compound per mole of metal from groups VIB and VIII.

18. (currently amended) ~~The~~ Catalyst described in claim 17, ~~characterized in that it includes~~ comprising from 0.001 to 10 moles of said organic compound.

19. (currently amended) ~~A P~~process for preparing the catalyst described in ~~any of claims 1 through 18, comprising contacting~~ characterized in that said organic compound, diluted in a solvent, preferably in a hydrocarbon mixture, ~~is put in contact with the~~ catalyst in a medium of a base of at least one refractory oxide, at least one metal of group VIII and at least one metal of group VIB with the organic compound of claim 1, as a gas, diluted in a solvent, and/or in a hydrocarbon charge, to form the catalyst of claim 1.

20. (currently amended) ~~The P~~process described in claim 19, ~~characterized in that wherein~~ said organic compound is a synthesized compound, obtained by reacting a carbonyl compound of formula (III), which may or may not be contained in the hydrocarbons charge being processed, with an amine of formula (II), by maintaining the mixture at a temperature between room temperature and 100° C, under pressure that is at least equal to atmospheric pressure.

21. (currently amended) ~~The P~~process described in ~~either of claims 19 or 20, characterized in that wherein~~ said organic compound is prepared *in situ* in ~~the~~ a hydroconversion reactor, in the hydrocarbons charge being processed.

22. (currently amended) ~~The P~~process described in ~~either of claims 19 or 20, characterized in that wherein~~ the organic compound is prepared *ex situ*, and then deposited or impregnated on the catalyst.

23. (currently amended) ~~Use of the catalyst described in claims 1 through 18, in a A~~ hydrocarbon hydrotreatment and/or hydrocracking process, after *in situ* or *ex situ* sulfidation of ~~said~~ a catalyst of claim 1 without said organic compound, using at least one sulfide compound chosen from among hydrogen sulfide, sulfur, CS₂, mercaptans, sulfides and/or polysulfides or

hydrocarbon fractions with a boiling point of less than 400° C, containing sulfur compounds, or other compounds with a sulfidizing effect, comprising

contacting said catalyst with and this the organic compound of claim 1 is introduced in the form of a gas or in diluted form in a solvent, and

passing a hydrocarbon charge to be hydrotreated and/or hydrocracked over said catalyst,

wherein the organic compound can be provided as an additive of the lead hydrocarbon charge being converted, in addition to or in lieu of contacting the catalyst with compound in the form of a gas or in diluted form in a solvent.